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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/920,682	08/02/2001	Lands J. Stewart JR.		5757

24919 7590 11/18/2003

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EXAMINER	
KYLE, MICHAEL J	
ART UNIT	PAPER NUMBER
3676	

DATE MAILED: 11/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/920,682

Applicant(s)

STEWART, LANDS J.

Examiner

Michael J Kyle

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 9-20, 22-30 and 32-37 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-11, 22, 23, 32, 33 and 35-37 is/are allowed.
- 6) ☒ Claim(s) 1-6, 12-19, 24-30 and 34 is/are rejected.
- 7) ☒ Claim(s) 7 and 20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6, 12-19, 24-30, and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Klein et al (U.S. Patent No. 5,370,404). Klein et al discloses a seal for use adjacent to a rotating surface (3) comprising a ring (4) having a sealing surface (17) sealing between the stationary surface (of 2) and the sealing surface. The ring has a race engagement surface (engaging 9.2) separate from the sealing surface. Klein et al also discloses a first race (9.1), a second race (9.2), and a plurality of bearing elements (9).

3. With respect to claims 2-4, Klein et al discloses a bearing cage (see figure 1, arc shaped pieces on left and right side of 9) disposed between first and second races, defining bearing openings. The bearing elements (9) are disposed in the openings. Klein et al also discloses the sealing surface (17) to be an outer peripheral surface of the ring. The first race (9.1) has a substantially planar bearing surface (top surface in figure 1), the second race (9.2) has a substantially planar bearing surface (bottom surface in figure 1), and the first and second surfaces are parallel.

4. With respect to claims 5 and 6, Klein et al discloses the bearing elements (9) to engage the first and second bearing surfaces. The bearing elements are rollers.

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5. With respect to claims 12 and 13, Klein et al discloses the bearing elements to be rollers. Additionally, the race engagement surface is one of a pair of race engagement surfaces disposed on opposite sides (diametrically opposite) of the ring, and the first race (9.1) is of a pair of first races engaging portions of the rotating surface (3) on opposite sides of the ring (diametrically opposite). The second race (9.2) is one of a pair of second races disposed on opposite sides (diametrically opposite) of the ring and engaging a corresponding race engagement surface. The bearing elements (9) are disposed between corresponding ones of the first and second races.

6. With respect to claim 14, Klein et al discloses a stationary housing (2) having a sealing surface, a rotor assembly (3), a ring (4) having a sealing surface (17) sealing along a portion of the housing sealing surface and having a bearing race engagement surface (above 9.2) separate from the ring sealing surface. Klein et al also discloses a first bearing race (9.1) engaging a portion of the rotor (3), a second bearing race (9.2) engaging the race engagement surface, and a bearing cage (arc shaped portion either side of 9) defining a plurality of bearing openings disposed between the first and second bearing races. A plurality of bearing elements are disposed in the bearing openings.

7. With respect to claims 15 and 16, the housing sealing surface is substantially cylindrical and the ring sealing surface (17) is substantially concentric with the housing sealing surface. Klein et al also discloses the ring sealing surface (17) to be an outer peripheral surface of the ring (figure 1).

8. With respect to claims 17 –19 and 24, Klein et al discloses the first and second bearing races (9.1, 9.2) have substantially planar first and second bearing surfaces (top surface of 9.1,

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and bottom surface of 9.2). The first and second surfaces are substantially parallel. The bearing elements (9) engage the first and second bearing surfaces. The bearing elements are rollers.

9. With respect to claim 25, Klein et al discloses the race engagement surface is one of a pair of race engagement surfaces disposed on opposite sides (diametrically opposite) of the ring, and the first bearing race (9.1) is of a pair of first bearing races engaging portions of the rotating surface (3) on opposite sides of the ring (diametrically opposite). The second bearing race (9.2) is one of a pair of second bearing races disposed on opposite sides (diametrically opposite) of the ring and engaging a corresponding race engagement surface. The bearing cage is one of a pair of bearing cages disposed between corresponding ones of the first and second races with bearing elements (9) disposed in the bearing opening of the cages.

10. With respect to claim 26, Klein et al discloses a seal (4) for use adjacent to a rotating race engagement surface (surface of 3) and stationary race engagement surface (above 9.2). Klein et al discloses a first race (9.1) adapted for engagement with the rotating race engagement surface (3), the first race defining inner and outer annular portions (axial ends of 9.1). Klein et al also discloses a second race (9.2) adapted for engagement with the stationary race engagement surface and being disposed between the annular portions of the first race (in a radial direction). There is a plurality of bearing elements (9) disposed between the first and second races.

11. With respect to claims 27 and 28, bearing cage (see figure 1, arc shaped pieces on left and right side of 9) disposed between first and second races, defining bearing openings. The bearing elements (9) are disposed in the openings. The first race (9.1) has a substantially planar bearing surface (top surface in figure 1), the second race (9.2) has a substantially planar bearing surface (bottom surface in figure 1), and the first and second surfaces are parallel.

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12. With respect to claims 29, 30, and 34 Klein et al disclose the bearing elements (9) to engage the first and second bearing surfaces, and the bearing elements are rollers.

Allowable Subject Matter

13. Claims 7 and 20 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. Claims 35-37, 9-11, 22-23, and 32-33 are allowed.

Response to Arguments

15. Applicant's arguments with respect to all of the claims have been considered but are moot in view of the new ground(s) of rejection. Claims 1-6, 12-19, 24-30, and 34, now stand rejected under 102(b) as being anticipated by Klein et al, as discussed above. The change in the rejection was necessitated by the added limitation to independent claims 1 and 14.

16. Applicant's arguments, see second full paragraph, page 11, and first full paragraph, page 12, filed September 3, 2003, with respect to the rejection(s) of claim(s) 26 and 28-30 under 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Klein et al.

Conclusion

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17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J Kyle whose telephone number is 703-305-3614. The examiner can normally be reached on Monday - Friday, 8:30 am - 5:00 pm.

18. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 703-308-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9326.

19. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2168.

mk



Anthony Knight
Supervisory Patent Examiner
Technology Center 3600